IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

ABID GHUMAN et al.

Group Art Unit: 3726

Examiner: Christopher K. Agrawal

Serial No.: 10/709,045

Filed: April 8, 2004

For: METHOD OF DESIGNING A VEHICLE CLOSURE ASSEMBLY LINE

Attorney Docket No.: 81095799 (FMC 1664 PUS)

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal Brief from the final rejection of claims 1-4 of the Office Action mailed on July 26, 2006 for the above-identified patent application.

I. REAL PARTY IN INTEREST

The real party in interest is Ford Global Technologies, LLC ("Assignee"), a corporation organized and existing under the laws of the state of Delaware, and having a place of business at Fairlane Plaza South, Suite 800, 330 Town Center Drive, Dearborn, Michigan 48126. The assignment to Assignee has been recorded in the U.S. Patent and Trademark Office on April 8, 2004 at Reel 014487/Frame 0183. Assignee is a wholly owned subsidiary of Ford Motor Company, a corporation organized and existing under the laws of the state of

Delaware.

II. RELATED APPEALS AND INTERFERENCES

There is currently an appeal pending in application no. 10/904,064 which may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-20 are pending in this application. Claims 1-20 have been rejected. Claims 1-4 are the subject of this appeal.

IV. STATUS OF AMENDMENTS

All amendments previously filed in this application have been entered. No Amendment After Final rejection was filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

This invention relates to a method (10) of designing a manufacturing process line for a vehicle closure. The method (10) includes identifying a manufacturing process (12) comprising a set of discrete steps to be performed on at least one workpiece. The method (10) also includes identifying a plurality of standardized work cells (14), each work cell having at least one standardized workpiece presenter that supports a workpiece in a predefined spacial orientation, and at least one standardized processing tool, wherein for each work cell at least a portion of at least one standardized workpiece presenter will remain stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell. The method (10) further includes selecting a subset of the set of discrete steps to be performed at a work cell (16) and selecting the standardized work cell for performing the subset of steps (18). The step of selecting a subset of the set of discrete steps (18) is to be repeated until all of the discrete steps are assigned to one of the plurality of work cells (20).

(See Figure 1 and pages 2-3 at paragraph 7 from the specification. Also see the amendment to claim 1 presented in Applicant's May 16, 2006 37 C.F.R. §1.111 Amendment.)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,127,569, issued to Sekine et al.

VII. ARGUMENT

A. Claims 1-4 Are Patentable Under 35 U.S.C. § 102(b) Over U.S. Patent No. 5,127,569

U.S. Patent No. 5,127,569 to Sekine et al. does not disclose all the limitations in claim 1 as discussed below. As noted in § 2131 of the Manual of Patent Examining Procedure, "a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP 2131, quoting from *Berdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 Fed. Cir. 1987. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 Fed. Cir. (1989).

Claim 1, which is directed to a method of **designing** a manufacturing process line for a vehicle closure recites the following claim elements:

> identifying a manufacturing process comprising a set of discrete steps to be performed on at least one workpiece;
>
> identifying a plurality of standardized work cells, each work cell having at least one standardized workpiece presenter that supports a workpiece in a predefined spacial orientation, and at least one standardized processing tool, wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell;

> selecting a subset of the set of discrete steps to be performed at a work cell and selecting the standardized work cell for performing the subset of steps; and
>
> repeating the selecting step for additional subsets of steps to be performed at one of the plurality of work cells until all of the discrete steps are assigned to one of the plurality of work cells.

The first element requires the identification of a manufacturing process that comprises a set of discrete steps to be performed on at least one workpiece. The second element requires the identification of a plurality of standardized work cells, each work cell having at least one standardized workpiece presenter that supports a workpiece in a predefined spacial orientation, and at least one standardized processing tool, wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell. Sekine does not explicitly disclose either of these first two elements. Nevertheless, the Examiner asserts that the first and second claim elements of claim 1 are present in Sekine. The Examiner stated:

> Sekine teaches a method of designing a manufacturing process line (Fig. 1), for a vehicle closure (Col. 1 lines 21-23) the method comprising: identifying a manufacturing process comprising a set of discrete steps (col. 2 lines 10-32) to be performed on at least one workpiece; identifying a plurality of standardized work cells (e.g., sub-assembly lines/cells 1-6), each work cell having at least one standardized workpiece presenter 25 that supports the workpiece in a predefined spacial orientation, and at least one standardized processing tool 46; wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell . . . ;
>
> July 26, 2006 Office Action, page 2, paragraph 3.

Despite this assertion, the second passage from Sekine cited by the Examiner (col 2. lines 10-32) contains only a detailed description of a method for carrying a workpiece to an assembling stage, it does not explicitly disclose the first element of Applicants' claim 1. That passage reads as follows:

> The method comprises by steps (a) moving the carrier together with the workpiece positioning device to a type switching stage, the type switching stage being capable of actuating the workpiece positioning device by using a power source mounted on the type switching stage (b) connecting the power source on the type switching stage to the workpiece switching device to change the positions of the workpiece holders in accordance with a type of workpiece which will be subsequently handled by the positioning device, (c) disconnecting the power source from the positioning device upon completion of the position change of the workpiece holders, (d) moving the carrier together with the workpiece positioning device to a workpiece pick-up stage, (e) picking up at least one selected workpiece from a workpiece storing rack and putting the selected workpiece onto the workpiece holders of the positioning device; and (f) moving the carrier together with the positioning device to the certain assembling stage with the selected workpiece kept held by the workpiece holders and positioned with respect to the carrier.
>
> (See Sekine, column 2, lines 10-32.)

Thus, the first element of Applicant's claim 1 is not explicitly disclosed by Sekine.

The Examiner's reliance on sub-assembly lines/cells 1-6 of Sekine (the Examiner did not identify a specific figure from Sekine) as explicitly disclosing the second element of Applicants' claim 1 is also misplaced. Sekine's illustration of a plurality of sublines does not disclose the second element of Applicants' claim 1, which recites the step of identifying a plurality of standardized work cells, each work cell having at least one standardized workpiece presenter that supports a workpiece in a predefined spacial orientation, and at least one standardized processing tool, wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one

standardized processing tool when the workpiece is moved within and between each work cell. Consequently, the second element of Applicants' claim 1 is not explicitly disclosed by Sekine.

In an admission that Sekine does not explicitly disclose the first or second elements of Applicants' claim 1, the Examiner asserts inherency as a basis for maintaining the 35 U.S.C. § 102(b) rejection of claim 1. The Examiner stated:

> With respect to the acts of designing the manufacturing process line and identifying processes and work cells, these acts are inherent to the overall process of the alleged invention as well as the cited reference. In order to put an assembly [sic] into tangible form, its elements must have at least been designed, identified and assembled in a certain manner.
>
> See July 26, 2006 Office Action, page 3, paragraph 4.

In making this assertion, however, the Examiner recharacterized the first and second elements of Applicants' claim 1 by summarizing them as a step for identifying processes and a step for identifying work cells, thus broadening both elements. The Examiner then asserted that these recharacterized elements are inherently present in Sekine. Whether or not these recharacterized claim elements are inherent in Sekine is not the proper inquiry. Instead, the Examiner should have focused on the elements as they were claimed by Applicants.

To establish inherency, the missing descriptive matter must **necessarily** be present in the thing described in the reference. "The law requires that inherency may not be established by possibilities or probabilities. The evidence must show that the inherency is necessary and inevitable." *Interchemical Corp. v. Watson*, 145 F. Supp. 179, 182 (D. D.C. 1956), *aff'd* 271 F.2d . 390 (D.C. Cir. 1958). The mere fact that a certain thing **may** result from a given set of circumstances is **not sufficient**. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (emphasis added). On the issue of inherency, the C.C.P.A. has held as follows:

"[i]n the case of *In re Draeger et al.*, 150 F.2d. 572, 574, 32 C.C.P.A. (Patents) 1217, this court said (citing numerous cases in point): 'Inherency does not mean that a thing might be done, or that it might happen, as in the instant case, one out of 20 odd times; but it must be disclosed, if inherency is claimed, that the thing will *necessarily* happen.'") *Giambalvo v. Detrick*, 168 F.2d 116, 120 (C.C.P.A. 1948) (emphasis added).

With this guidance in mind, the proper inquiry is whether the teachings of Sekine **necessarily** include identifying a manufacturing process comprising a set of discrete steps to be performed on at least one workpiece and also identifying a plurality of standardized work cells, each work cell having at least one standardized workpiece presenter that supports a workpiece in a predefined spacial orientation, and at least one standardized processing tool, wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell. The answer is no. These elements relate to a method of designing an assembly line. The method of Sekine relates to a method of executing an assembly line and is employed after the assembly line has already been designed. Designing the assembly line is simply not a component of Sekine. Even if it were, the answer would still be no because there are many different ways to design an assembly line and the first two elements of Applicants' claim 1 are not **necessarily** employed by an assembly line designer.

Importantly, the Examiner offered no evidence to support his assertion that Applicants' claimed method of designing a process line for a vehicle closure is the only method of designing a process line for a vehicle closure or that any one employing the method of Sekine must necessarily engage in the first two steps of Applicants' claim 1. This was the Examiner's burden. MPEP §2112 IV. As the Board of Patent Appeals and Interferences has previously held, "[i]n relying upon the theory of inherency, the examiner **must** provide a basis in fact and/or technical reasoning to support the determination that the allegedly inherent

characteristic necessarily flows from the teachings of the applied prior art. *Ex Parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (bolding added, underlining in original). This, the Examiner did not do. Because the first and second elements of Applicants' claim 1 are not **necessarily** present in the manufacturing process disclosed by Sekine, these steps are not inherent in Sekine and therefore Sekine does not anticipate claim 1.

This conclusion is buttressed by the fact that Applicant and Sekine seek to solve different problems. Applicants' claim 1 is directed to a method for designing a manufacturing process line for a closure. Sekine does not address this problem. Instead, Sekine seeks to provide ". . . a method and an apparatus for assembling a vehicle body, and more particularly to a method and apparatus for assembling various types vehicles bodies [*sic*] . . . ." See Sekine, column 1, lines 10-15. With these differences in mind, it becomes clear that the first and second elements of Applicants' claim 1, which are concerned with designing a manufacturing process line, are not inherent in Sekine.

Claim 2-4 depend on claim 1. Therefore, Applicants believe the rejection of these claims must be reversed for the reasons previously discussed.

The Commissioner is hereby authorized to charge the appeal fee of $500 as applicable under the provisions of 37 C.F.R. § 41.20(b)(2), and any other fee deficiency incurred as a result of filing this paper, to the deposit account of Appellants' assignee, Ford Global Technologies, LLC, Deposit Account No. 06-1510. A duplicate copy of this page is enclosed for this purpose.

Respectfully submitted,

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Enclosure - Appendices

VIII. CLAIMS APPENDIX

1. A method of designing a manufacturing process line for a vehicle closure, the method comprising:

identifying a manufacturing process comprising a set of discrete steps to be performed on at least one workpiece;

identifying a plurality of standardized work cells, each work cell having at least one standardized workpiece presenter that supports a workpiece in a predefined spacial orientation, and at least one standardized processing tool, wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell;

selecting a subset of the set of discrete steps to be performed at a work cell and selecting the standardized work cell for performing the subset of steps; and

repeating the selecting step for additional subsets of steps to be performed at one of the plurality of work cells until all of the discrete steps are assigned to one of the plurality of work cells.

2. The method of claim 1 wherein a plurality of manufacturing process lines are identified as templates.

3. The method of claim 2 wherein the manufacturing process line is completely designed by specifying a plurality of templates in a defined sequence.

4. The method of claim 1 wherein the workpiece presenter and processing tool are interrelated with an integrated standard control system.

5. The method of claim 1 wherein a first work cell comprises the standardized workpiece presenter comprising a pedestal welding work cell having a robotic arm for picking up and moving workpieces from a fixture to the processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit, and a projection weld gun.

6. The method of claim 5 wherein a second work cell comprises the standardized workpiece presenter comprising a multiple sided trunnion fixture having a plurality of fixtures for a plurality of workpieces that are rotated about a horizontal axis and the processing tool is selected from the group consisting essentially of a welding robot and a sealant applicator.

7. The method of claim 6 wherein a third work cell comprises the standardized workpiece presenter comprising a fixture in a tool and the processing tool is selected from the group consisting essentially of a hemming tool, a clinching tool, and a piercing tool.

8. The method of claim 1 wherein the closure is a vehicle passenger compartment door.

9. The method of claim 1 wherein the closure is a vehicle trunk lid.

10. The method of claim 1 wherein the closure is a vehicle hatchback.

11. The method of claim 1 wherein the closure is a vehicle engine compartment hood.

12. A manufacturing process line for making a vehicle closure, the manufacturing process line comprising:

a first template having a plurality of work cells including:

a pedestal welding work cell having a robotic arm for picking up and moving a workpiece to a processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit, and a projection weld gun; and a trunnion work cell having a multiple sided trunnion fixture that is rotated about a horizontal axis to position the workpiece near a second processing tool selected from the group consisting essentially of a welding robot and a sealant applicator;

wherein the plurality of work cells are arranged in a predetermined sequence such that at least one trunnion work cell is disposed between consecutive pedestal welding work cells.

13. The manufacturing process line of claim 12 comprising three pedestal welding work cells and four trunnion work cells.

14. The manufacturing process line of claim 13 wherein the first, third, and sixth work cells are pedestal welding work cells and the second, fourth, fifth, and seventh work cells are trunnion work cells.

15. The manufacturing process line of claim 14 further comprising a material handling robot for transporting workpieces between the second work cell and the third work cell.

16. The manufacturing process line of claim 12 further comprising a second template having a plurality of work cells arranged in a predetermined sequence, the work cells including:

a pedestal welding work cell;

a trunnion work cell; and

a hem clinch work cell including a fixture and a processing tool, the processing tool selected from the group consisting essentially of a hemming tool, a clinching tool, and a piercing tool;

wherein the second template receives the workpiece from the first template and performs additional operations on the workpiece to complete fabrication of the closure.

17. The manufacturing process line of claim 16 comprising one pedestal welding work cell, one trunnion work cell, and two hem clinch work cells.

18. The manufacturing process line of claim 17 wherein a first work cell is a trunnion work cell, a second work cell is a pedestal welding work cell, and third and fourth work cells are hem clinch work cells.

19. The manufacturing process line of claim 18 wherein the first work cell is configured with a sealant dispensing unit as the processing tool.

20. The manufacturing process line of claim 16 further comprising a material handling robot for transporting the workpiece from the second work cell to the third work cell and from the third work cell to the fourth work cell.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.